Name:.....

Index No..... Signature:.....

545/2
CHEMISTRY
Paper 2
July/August, 2024
2 hours

MASAKA DIOCESAN EXAMINATIONS BOARD
Uganda Certificate of Education
JOINT MOCK EXAMINATIONS 2024
CHEMISTRY
Paper 2
PRACTICAL
2 hours

INSTRUCTIONS TO CANDIDATES

Attempt the item in this paper
Responses are to be written in the space provided.
All working must be clearly shown.
Mathematical tables and silent non- programmable calculators may be used.

For assessment use only		
Item 1		

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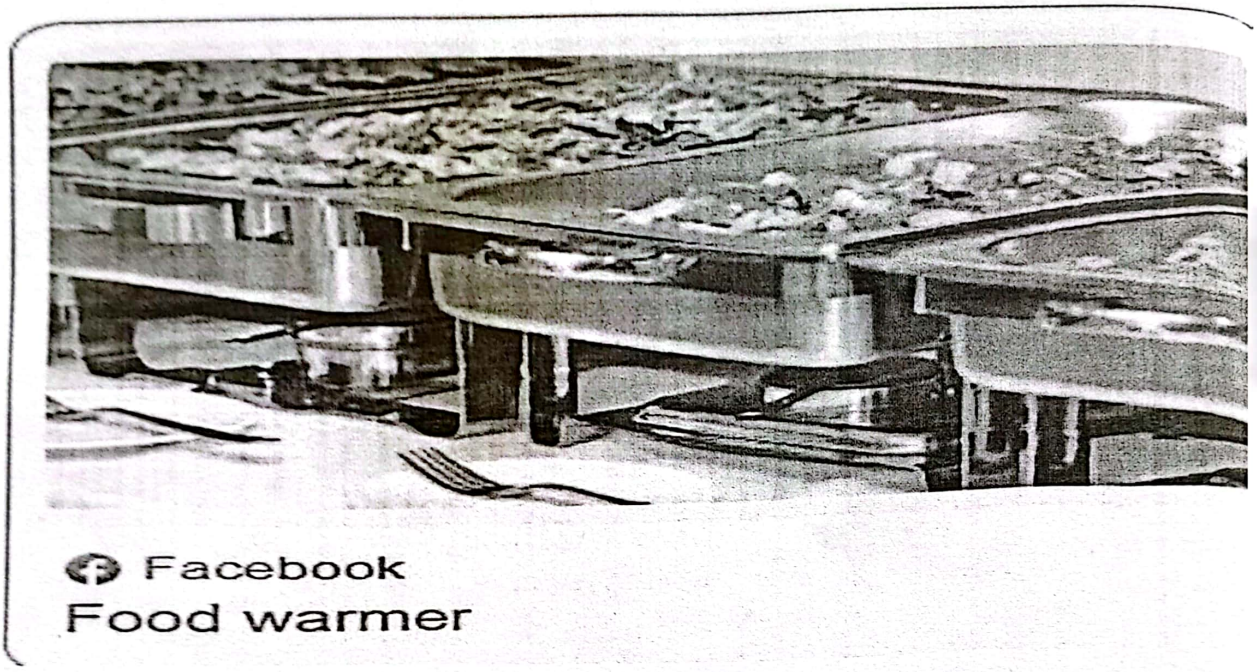
A metal scrap recycling company is exploring an innovative method to generate heat in food warmers. Their idea involves using **iron scrap** in a process that **displaces copper (II) ions** from a solution. This approach would potentially reduce use of polluting fossil fuels. However, the company needs to determine if this method can produce a significant amount of heat, ideally above 50,000 Joules, to be a viable solution



$$Fe(s) + Cu^{2+}(aq) \longrightarrow Cu(s) + Fe^{2+}(aq) + \text{heat}$$

You are provided with:

- Solid P which is sample of Iron fillings from scrap
- BA1 which is Copper (II) sulphate solution
- Some apparatus

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Tasks

(a) Design an experiment that can be used to determine the amount of heat evolved.

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(b) Carry out the experiment and determine the amount of heat evolved.

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(c) Analyse the results and draw the conclusion.

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*** END ***

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